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4 March 1964

**MEMORANDUM OF CONVERSATION WITH BROCKWAY McMILLAN,  
D/NRO**

1. I met alone with McMILLAN on Tuesday, 3 March, at three o'clock for approximately one hour to discuss a number of current items which need clarification between CIA and NRO.

2. LIGHTENING BUG. I raised the question on the desirability of running the LIGHTENING BUG drone operation over Pyongyang, North Korea. His response was not immediate, and he inquired how Vance and others had reacted. McMILLAN is concerned over the reliability of the system and says that if it is a one-shot operation, as it probably will be, he wants to review the anticipated reliability very carefully. He stated quite candidly that SAC war plan penetration was based on low-altitude intrusion and bombing out defenses as they went. He said that although General Power would make a strong case for the role jammers would play, you could not seriously justify running the Pyongyang operation on the basis of its immediate benefit to the SAC manned bombers. We then agreed that the issue should stand or fall on its benefit to the OXCART program for the immediate future.

3. I suggested that if this was the case, his decision on Pyongyang might be intimately tied to his attitude toward the OXCART "super-market", representing the DD/S&T proposal for a combination of passive, active and jammer electronic equipments for OXCART protection. I said it was our impression that he and Fubini had taken a very negative view in which case there might be no point in running LIGHTENING BUG

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Page 2

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4. Advanced Aircraft. I then turned to the advanced aircraft program in OSA, indicating that approximately one-quarter of a million dollars had already been spent at General Dynamics on a Mach 4 design, which seemed to be proceeding well. I indicated that I had within the last week directed a joint study between the OSI air defense people and OSA aircraft development group to establish the dependence of aircraft vulnerability on the three basic independent variables: speed, altitude and radar cross section. He thought this was an excellent approach and had also wondered where the specifications for the General Dynamics study had come from. I opined that any follow-on aircraft would be the result of an active technical competition between aircraft vulnerability - in all of its dimensions - and aircraft performance, whereas OXCART had been a simple competition between radar cross section and performance. I suggested that the solution might very well be a vehicle with very high altitude, low radar cross section and zero speed, i. e., a balloon. McMillan agreed that we ought to explore this "vulnerability space" in all its dimensions and ramifications before proceeding further. I indicated that this study would take about a month, at the end of which we should be in a position to suggest further contracts which would be complementary to the General Dynamics effort and which would explore other portions of the speed-altitude regime which may emerge as vulnerable windows in the Soviet defenses. He seemed well pleased with all this and will be interested in the results.

5. He did opine that he thought it would be very difficult to begin another program like OXCART, involving a whole power plant development and aircraft technology. He felt that OXCART had benefited from previous development of the J-58 and that any next generation aircraft would require a distinctly new engine. He thought that it would be difficult for the Agency to conceal this sort of development under confidential funds. He went on to opine that the Agency would find it

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Page 3

difficult to work with anybody except Kelly Johnson at the Skunk Works, and that Kelly had probably built his last airplane. He did suggest that McDonald might have promise in this area, but completely threw up his hands at the rest of the aircraft industry. We agreed that it was premature to debate how development programs might proceed until we knew what sort of development was called for.

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Page 4

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7. I then took the wind out of our joint sails by indicating that we had been largely unsuccessful in organizing and articulating the specific requirements for photography in the indications intelligence role. I suggested that this was true partly because indications and watch people were not used to having photography as a regular input to their analysis, but recognized that there might also be a basic limitation on the role that photography could play. I indicated that Mr. Sheldon who is certainly the senior Agency person in the watch business had made a very determined effort to run this down and felt unsatisfied about proceeding with the hardware feasibility questions. Brock was very surprised to hear this as he holds Sheldon in high regard and was much interested in the problem. I said that since he and Fubini seemed to have a clear requirement in their minds for a satellite placed somewhere between the border on short notice to monitor tensions there that we might discuss this together with benefit. McMillan said that their enthusiasm might be based on the fact that they were quite unprofessional in the indications intelligence business and that they had a great deal to learn from our people in sorting out the standard list of requirements. I proposed that a very small group - myself, Sheldon and one other person - meet with McMillan and Fubini, and whomever else they elect, to try to understand the joint military/Agency requirement. He agreed that this was a first-rate idea and suggested we do it some Saturday. We left the matter there, but I think we can go further in this field by making McMillan a party to the decision process.

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8. I then inquired about the status of the G-3 program about which we had heard and the GAMBIT-J configuration in the light of comments that Land made to the DCI about a [ ] resolution system. McMillan clarified the situation about as follows: Eastman Kodak has had a well-funded [ ] study program from Greer for some time called VALLEY to study advanced spotting systems for the Air Force. These studies now point to the feasibility of building a 4700 lb. payload which would be carried aloft by the ATLAS AGENA and photograph ground areas with a resolution of [ ]. The ground coverage would be a square 4-1/2 miles on each side and obviously involves a camera steering program of the type now used by the GAMBIT. McMillan confirmed that this is the G-3 program and that it is a very strong candidate for major funding in FY 65 as an active follow-on to the present GAMBIT. He also confirmed that GAMBIT-J would not be funded as originally indicated by the 1965 NRO budget. He stated that our reduced requirement for GAMBIT shots to about 8 per year made the development of the J version quite unnecessary and uneconomical, with which I agreed. He stated that the cost of a routine GAMBIT launch schedule was [ ].

[ ] We finally agreed that we could save somewhere in the neighborhood of [ ] in the GAMBIT-J development. While the double bucket J development for GAMBIT would cost only about [ ] the confidence firings and R&D costs to prove out such a system would probably raise the additional [ ].

9. I mentioned his two memos to me appointing a committee for NRO for follow-on to Drell in which he had selected an individual within S&T to represent the Agency. I indicated that his selection had not necessarily been our strongest man nor most experienced in Agency affairs and we would prefer to make our own nominations to such activity in the future. He readily agreed that it was not appropriate for him to designate such people.

10. He raised the question with me about the three people he had asked the Agency to assign to NRO and laid particular stress on an advanced development individual who might go to the West Coast and replace Captain Gorman on General Greer's staff. I made little response to this except to agree that the issue had been hanging for some time. I inquired whether the individual had to be on the West Coast. He said no, that he had an open mind on this. He then went on to point out that an AF Colonel, Dave Carter, is coming to NRO to carry out an advanced development staff function for him. He did ask for CIA nominees to serve with Carter after Carter arrives and has established his requirements.

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13. The meeting was most cordial and therefore quite interesting in view of the PFIAB/Baker Panel inquiry.

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ALBERT D. WHEELON  
Deputy Director  
(Science and Technology)

cc: DCI  
DDCI  
NIPE

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